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**Rhodolite, a New Variety of Garnet.**<sup>1</sup>— Under this name a variety of garnet is described which occurs in placer deposits in Macon County, North Carolina, and is notable for its fine amethystine and rose color, and gem quality of clearness. It occurs only in rolled or etched fragments, together with the following minerals, in more or less abundance: quartz, pyrope, corundum, spinel, iolite, cyanite, fibrolite, hornblende, staurolite, rutile, chromite, monazite, zircon, gold, sperrylite, menaccanite, and bronzite.

The specific gravity of the material which was very free from inclusions was 3.838. Chemical composition:

SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	FeO	MgO	CaO	Sum
41.59	23.13	1.90	15.55	17.23	0.92	100.32

corresponding to the formula  $2\text{Mg}_3\text{Al}_2(\text{SiO}_4)_3.\text{Fe}_3\text{Al}_2(\text{SiO}_4)_3$ , a mixture of two pyrope molecules with one of almandine.

## PETROGRAPHY.

**Classification of Igneous Rocks.**— In an interesting paper on the relation between the chemical and mineral composition of igneous rocks, Iddings<sup>2</sup> shows very plainly that the mineral composition of a cooling magma is dependent both on the original composition of this magma and upon the character of the minerals that *first* separate from it. It is well known that quartz is usually associative only with the polysilicate-feldspathic minerals. Of these minerals the most acid one possible with the available silica in the magma, is that which forms first. The alkalies seem to control an equal amount of alumina, forming alkali-feldspathic molecules, the alumina in excess combining with calcium to form anorthite, or with magnesium and iron to produce the amphiboloids. These and several other laws less firmly established have been carefully worked out by comparing the mass composition of massive rocks with their mineral composition. The author discusses in detail the mineral composition of magmas (1) in which the alkali is wholly soda and in which alumina is present in equivalent quantities with the soda; (2) those in which the sole alkali is potash with alumina in equal quantity; and (3) those in which the alkalies control an equal amount of alumina and in which lime and additional alumina occur in the proportion of

<sup>1</sup> Hidden, W. E., and Pratt, J. H. *Amer. Journ. of Sci.*, vol. clv, p. 294, 1898.

<sup>2</sup> *Journ. of Geol.*, vol. vi, p. 219.